WHAT IS CLAIMED IS:

1. A golf ball comprising:

an array of flat-loop passive transponders constructed of electrically conductive material having respective planar inner and outer faces. wherein one passive transponder is arranged along each of three mutually perpendicular axes having a common point of intersection such that each passive transponder is equidistant from the point of intersection and each passive transponder is perpendicular to each of the other passive transponders to provide a substantially omni-directional radiation pattern;

said transponders being configured with a discontinuous loop having confronting edges spaced apart to form a slot of predetermined gap;

a layer of electrically insulating material disposed on one face of said loop;

dielectric material disposed in said slot to cooperate in forming a capacitor, whereby the effective capacitive reactance may be controlled by the width of said gap and the choice of said dielectric material;

a ball core disposed inside said transponder loops; and

a cover covering said transponders.

2. The golf ball of claim 1 wherein:

said array of passive transponders is disposed on the surface of said core.

3. The golf ball of claim 1 wherein:

said array of passive transponders is encapsulated within said core.

4. The golf ball of claim 1 wherein:

said array of passive transponders is disposed on one surface of said cover.

5. The golf ball of claim 1 wherein:

said flat loop is constructed of copper foil.

6. The golf ball of claim 1 wherein:

said dielectric material is in the form of solder mask compound.

7. A golf ball comprising:

at least one flat-loop inductor constructed from electrically conductive material having planar faces;

said loop being configured with confronting edges spaced apart to form a slot of predetermined gap at one point about the circumference of said loop;

a layer of electrically insulating material disposed on one face of said loop;

dielectric material disposed in said slot to cooperate in forming a capacitor, whereby the effective capacitive reactance may be controlled by the width of said gap and the choice of said dielectric material;

a ball core disposed inside said transponder loops; and

a cover covering said transponders.

8. A system for finding lost golf balls comprising:

a golf ball incorporating at least one passive transponder configured to resonate at a selected radio frequency and to emit a radio frequency return signal upon being illuminated by a source RF signal at said selected frequency;

an RF transmitter/receiver including a circuit operable to illuminate said passive transponder with said source signal to charge said passive transponder and including a circuit operable to detect said return signal, and further including a helical antenna for transmission of said source signal and detection of said return signal; and

at least one indicator included within said RF transmitter/receiver, responsive to said return signal, wherein said indicator communicates audio/visual signal strength information to a user.

9. The system for finding lost golf balls of claim 5 wherein:

said RF transmitter/receiver is hand-held.

10. The system for finding lost golf balls of claim 5 wherein:

said RF transmitter/receiver is battery operated.

11. A passive transponder comprising:

a flat loop formed from electrically conductive material, wherein said loop is of generally circular configuration having planar faces;

said loop being configured with confronting edges spaced apart to form a slot of predetermined gap at one point about the circumference of said loop;

a layer of electrically insulating material disposed on one face of said loop; and

dielectric material disposed in said slot to cooperate in forming a capacitor, whereby the effective capacitive reactance may be controlled by the width of said gap and the choice of said dielectric material.

12. The passive transponder of claim 11 wherein:

said loop has a diameter of .600 inches, a width of .050 inches, and a material thickness of .0028 inches.

13. The passive transponder of claim 11wherein:

said electrically conductive material is copper foil.

14. The passive transponder of claim 11 wherein:

said electrically insulative material is kapton film.

15. The passive transponder of claim 11 wherein:

said dielectric material is solder mask compound.

16. A flat-loop inductor array comprising:

an array of flat-loop inductors, wherein one flat-loop inductor is arranged along each of three mutually perpendicular axes having a common point of intersection such that each flat-loop inductor is equidistant from the point of intersection and each flat-loop inductor is perpendicular to each of the other passive transponders to provide a substantially omni-directional radiation pattern;

said flat-loop inductors are formed as a flat loop from electrically conductive material, wherein said loop is of generally circular configuration having planar faces;

said loop being configured with confronting edges spaced apart to form a slot of predetermined gap at one point about the circumference of said loop;

a layer of electrically insulating material disposed on one face of said loop; and

dielectric material disposed in said slot to cooperate in forming a capacitor, whereby the effective capacitive reactance may be controlled by the width of said gap and the choice of said dielectric material.

17. A system for tracking a golf ball in flight comprising:

a golf ball incorporating at least one passive transponder configured to resonate at a selected radio frequency and to emit a radio frequency return signal upon being illuminated by a source RF signal at said selected frequency;

at least two movable RF transmitter/receivers operable to illuminate said passive transponder with said source signal at said selected frequency and operable to detect said return signal from said passive transponder, and including a helical antenna for transmitting and receiving said selected signals;

a means for rotating said RF transmitter/receivers to sweep the field of play at predetermined periodic intervals with said selected RF signal; and

a means for visually displaying the flight path information generated by said RF transponder.

18. The system for tracking a golf ball in flight of claim 17 wherein:

said means for causing said RF transmitter/receivers to sweep the field of play at predetermined periodic intervals comprises an electro-mechanical drive mechanism.

19. The system for tracking a golf ball in flight of claim 17 wherein:

said means for causing said RF transmitter/receivers to sweep the field of play at predetermined periodic intervals comprises a switched antenna array for said RF transmitter/receivers, and wherein said RF transmitter/receiver array is sequentially pulsed at periodic intervals by an electronic controller.

20. The system for tracking a golf ball in flight of claim 17 wherein:

said means for causing said RF transmitter/receivers to sweep the field of play at predetermined periodic intervals comprises a combination of electro-mechanical drive mechanisms and switched antenna arrays for said RF transponders, wherein said RF transmitter/receiver arrays are sequentially pulsed at periodic intervals by an electronic controller.

21. A locator apparatus comprising:

a retrievable object including a passive transponder device;

said transponder device being configured to resonate at a selected radio frequency and to emit a radio frequency return signal upon being illuminated by a source RF signal at said selected frequency;

an active RF transmitter/receiver including a circuit for illuminating said passive transponder with an RF signal at said selected frequency to excite said passive transponder and including a circuit for detecting said emitted return signal and further including a helical antenna for transmission of said selected source signal and detection of said return signal; and

10 at least one indicator included within said RF transmitter/receiver, responsive to said return signal. wherein said indicator communicates audio/visual signal strength information to a user.

22. The locator apparatus as set forth in claim 21 wherein:

said passive transponder is in the form of a discontinuous loop which includes a capacitance gap and is constructed of a lamination of an insulative material and a metal foil conductor.

23. The locator apparatus as set forth in claim 21 wherein:

said insulative material and said metal foil conductor are kapton and copper respectively.

24. The locator apparatus as set forth in claim 21 wherein:

a portable housing is constructed to house said transmitter, receiver, antenna and indicator.

25. The locator apparatus as set forth in claim 21 wherein:

said passive transponder device includes a plurality of loop transponders oriented at an angle of 90 degrees to each other.

26. The locator apparatus as set forth in claim 21 wherein:

said passive transponder loop capacitance gap is laser trimmed to achieve a preselected resonance frequency.

27. The locator apparatus as set forth in claim 21 wherein:

said passive transponder is configured to resonate at substantially 2.45 ghz for substantially 800 nanoseconds after said illuminating source RF signal is turned off.